

REMARKS

The Office Action dated January 18, 2007 has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 7, 18, 20, and 22 have been amended to more particularly point out and distinctly claim the subject matter of the invention. Claims 15 and 23 have been canceled without prejudice or disclaimer. No new matter has been added.

Claims 1-6, 8, 9, 12-14, 16, 17, and 19 had been previously withdrawn from consideration pursuant to a restriction requirement. Therefore, claims 7, 10, 11, 18, and 20-22 are respectfully submitted for consideration.

As a preliminary matter, the Office Action stated that the foreign patent documents cited in the Information Disclosure Statement filed January 21, 2004 have not been considered because the published date of the document is not provided. Applicants respectfully submit that the publication date of WO 02/075950, which was the foreign patent document cited in the IDS, was provided on form PTO-1449 as September 26, 2002. As such, Applicants respectfully request consideration of the IDS filed on January 21, 2004.

The Office Action rejected claims 7, 10, 11, 15, 18, and 20-23 under 35 U.S.C. §103(a) as being unpatentable over Backman (U.S. Patent No. 6,128,355) in view of Tirola (U.S. Patent Pub. No. 2001/0017883). The Office Action took the position that

Backman discloses all of the elements of the claims, with the exception of conveying received signals depending on a used bit rate. The Office Action then cites Tirola as allegedly curing this deficiency in Backman. The rejection is respectfully traversed for the following reasons.

Claim 7, upon which claims 10 and 11 are dependent, recites a multi-user receiver comprising a branch with a whitening arrangement, another branch without a whitening arrangement, and a switching means for conveying received signals to the branch with the whitening arrangement or to the another branch without the whitening arrangement depending on a used bit rate. The multi-user receiver is configured to use at least two antenna elements and in which an influence of interference is reduced. The multi-user receiver further includes receiving means for performing multi-path combining and multi-antenna combining, and determining means for determining the predetermined users from whom the whitening is removed based on a bit rate threshold.

Claim 18 recites a base station comprising a multi-user receiver configured to use at least two antenna elements and, in the base station, an influence of an interference is reduced. The base station further includes a branch with a whitening arrangement, another branch without a whitening arrangement and a switching arrangement configured to convey received signals to the branch with the whitening arrangement or to the another branch without the whitening arrangement depending on a used bit rate. The base station also includes an element configured to perform multi-path combining and multi-antenna

combining, and a determining unit configured to determine the predetermined users from whom the whitening is removed based on a bit rate threshold.

Claim 20, upon which claims 21 and 22 are dependent, recites a multi-user receiver comprising a branch with a whitening arrangement, another branch without a whitening arrangement, and a switching arrangement configured to convey received signals to the branch with the whitening arrangement or to the another branch without the whitening arrangement depending on a used bit rate. The multi-user receiver uses at least two antenna elements and in which an influence of interference is reduced. The multi-user receiver further includes a receiver element configured to perform multi-path combining and multi-antenna combining, and a determining unit configured to determine the predetermined users from whom the whitening is removed based on a bit rate threshold.

The method and system of the invention provide several advantages. According to one embodiment of the invention, the whitening performed by a pre-whitening filter can be removed from predetermined users and therefore the signals can be combined optimally. In another embodiment of the invention, the predetermined users are conveyed to by-pass a pre-whitening filter, thus preventing disadvantages caused by whitening.

As will be discussed below, the combination of Backman and Tirola fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the advantages and features discussed above.

Backman discloses a method and system for combining signals in a receiver employing antenna diversity. If the interference exceeds a predetermined threshold, interference rejection combining (IRC) is used. If the interference does not exceed the predetermined threshold, maximum ratio combining (MRC) is used. The diversity combining technique can be selected, and the signals combined every burst, half-burst, or other suitable interval.

Tirola discloses a Rake receiver comprising at least two antenna branches, at least one Rake finger, and a delay estimator. The delay estimator comprises a despreader and an allocator for selecting at least one delay, and allocating a Rake finger for processing the signal component found by informing the Rake finger of the delay found. The delay estimator further includes a channel estimator, an interference estimator for generating an interference signal, a weighting coefficient part for providing each antenna branch with weighting coefficients maximizing the Signal-to-Interference-and-Noise Ratio, a multiplier for multiplying the pilot part by a weighting coefficient, and an antenna branch summer for combining the despread pilot parts, received via the separate antenna branches and multiplied by the weighting coefficient, to one combined pilot signal, on which combined pilot signal the selection is based in the allocator.

Applicants respectfully submit that Backman and Tirola, whether considered individually or combined, fail to disclose or suggest all of the elements of the present claims. For example, Backman and Tirola do not disclose or suggest “determining means for determining the predetermined users from whom the whitening is removed

based on a bit rate threshold,” as recited in claim 7. Similarly, Backman and Tirola fail to disclose or suggest “a determining unit configured to determine the predetermined users from whom the whitening is removed based on a bit rate threshold,” as recited in claims 18 and 20.

According to embodiments of the invention, the whitening is removed from predetermined signals, which may be implemented, for instance, by using a bit rate threshold. In other words, the whitening may be removed from signals exceeding the threshold.

The combination of Backman and Tirola, however, fails to disclose or suggest that predetermined users from whom the whitening is removed would be determined based on a bit rate threshold. The Office Action took the position that Tirola discloses this limitation of the claims (Office Action, page 4). Applicants respectfully disagree.

Tirola only discloses that the delay estimator 260 allocates N Rake fingers for the best audible signal components. On the basis of the energies (power values or calculated correlation values) of the formed pilot signals, an allocator 264 situated in the delay estimator selects at least one delay, by which a multipath propagated signal component is received (Tirola, paragraphs 0072, 0073, and 0080). However, Tirola fails to disclose or suggest determining the predetermined users from whom the whitening is removed based on a bit rate threshold, as recited in the present claims. Backman, as acknowledged in the Office Action, also fails to disclose or suggest this element of the claims.

Therefore, the combination of Backman and Tirola fails to disclose or suggest determining "the predetermined users from whom the whitening is removed based on a bit rate threshold," as recited in claims 7, 18, and 20. Accordingly, Applicants respectfully request that the rejection of claims 7, 18, and 20 be withdrawn.

Claims 10, 11, 21, and 22 are dependent upon claims 7 and 20, respectively. Consequently, claims 10, 11, 21, and 22 should be allowed for at least their dependence upon claims 7 and 20, and for the specific limitations recited therein.

For at least the reasons discussed above, Applicants respectfully submit that the combination of Backman and Tirola fails to disclose or suggest all of the elements of the claimed invention. These distinctions are more than sufficient to render the claimed invention unanticipated and unobvious. It is therefore respectfully requested that all of claims 7, 10, 11, 18, and 20-22 be allowed, and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, the applicants' undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



Majid S. AlBassam
Registration No. 54,749

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

MSA:jf

Enclosures: Petition for Extension of Time